

Abstract Submitted  
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**Ion Temperature Maps of the Magnetosphere** JOHN MCKEE, AMY KEESEE, KATE TALLAKSEN, EARL SCIME, West Virginia University — Measurements of ion temperatures throughout the magnetosphere provide an important description of magnetospheric dynamics because ion heating has been correlated with magnetic reconnection, instabilities, convection of plasma, and other phenomena. We present ion temperature maps of the magnetosphere created using energetic neutral atom (ENA) data from the TWINS spacecraft. These data have been sorted according to solar wind and magnetospheric conditions and the resulting ion temperature maps will be compared. For example, during fast solar wind and quiet magnetospheric conditions, a dawn-dusk ion temperature asymmetry is observed. There is also evidence of braking and heating of the ions at the boundary between the tail-like open magnetic field lines and the inner dipole closed field lines. The remotely-obtained ENA measurements will also be compared with ion temperature measurements from *in situ* satellites.

Amy Keese  
West Virginia University

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